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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022.706	12/17/2001	Michael G. Harris	772490100015	6249

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EXAMINER
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NOLAN, SANDRA M

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/022,706

Applicant(s)

HARRIS ET AL.

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-15 and 20-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-15 and 20-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) (varied).                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claims***

1. Pursuant to the amendments in the response dated 29 September 2003 (Paper No. 10), which were sent in after the office action dated 01 July 2003 (Paper No. 8), claims 1-4, 6-15 and 20-50 are pending. Claims 24, 27 and 29-40 are withdrawn.

### ***Election/Restrictions***

2. Claims 24, 27 and 29-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse (page 9 of Paper No. 10).

### ***Comment re: Facsimile Transmission***

3. It is noted that some of the lines of claims 8, 24 and 29 are difficult to read because of the facsimile transmission of Paper No. 10. It is suggested that, in the future, applicants not print on the last two inches of their sheets to minimize the likelihood of this problem recurring.

### ***Information Disclosure Statements***

4. The information disclosure statements (IDS's) discussed below were considered by the examiner.

5. The file wrapper contains the following nine (9) submissions of disclosure forms, one of which is an incomplete Form 1449. Paper numbers appear to the left for each submission.

1½.	17 Dec 2001	initialed and signed
2.	12 Feb 2002	not initialed or signed (The first page is missing.)

Art Unit: 1772

- |     |                  |                       |
|-----|------------------|-----------------------|
| 5.  | 30 Jul 2002      | initialed and signed  |
| 6.  | 19 Feb 2003      | initialed and signed  |
| 7.  | 03 Mar 2003      | initialed and signed  |
| 7½. | 29 May 2003      | initialed and signed  |
| 7¾. | 28 May 2003      | initialed and signed  |
| 9.  | 24 Jun 2003      | initialed and signed  |
| 11. | (Faxed; undated) | initialed and signed. |

Photocopies of all forms are enclosed.

6. It is noted that a full translation of Japanese disclosure S54-100444 [1979] to Saeda was supplied to the USPTO with Paper No. 11.

***Withdrawal of Rejections***

7. All of the 35 USC 102 and 103 rejections set out in Paper No. 8 are hereby withdrawn in view of applicants' arguments/amendments and the examiner's (re)consideration of all cited prior art.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2, 22, 28, 42 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What does "wide specification resins" mean?

Please clarify.

Art Unit: 1772

10. Claims 22-26, 28 and 47-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What is the difference between "extruded", "molded" and "formed"? Isn't extrusion a way of molding or forming a shaped article?

Please clarify.

***New Prior Art Rejections***

11. For purposes of the following rejections, the examiner will summarize her understand of the scope of the five elected base, or independent, claims.

Claim 1 covers a melt blend of:

- a first high density polyethylene (HDPE) with melt flow index (MFI) = 0.01-0.02 and density (D) = 0.941-0.958,
- a second HDPE with MFI = 0.1 to 1.5 and D = 0.957-0.970,
- a third polyethylene (PE) selected from linear low density polyethylene (LLDPE), linear medium density polyethylene (LMDPE) and mixtures of these,

wherein the blend has MFI = 0.1-0.4 and D = 0.945-0.960 and stress crack resistance exceeding 24 hours.

Claim 20 covers a melt blend of:

- a high molecular weight HDPE with melt flow index (MFI) = 0.01-0.02 and density (D) = 0.941-0.958,
- a homopolymer HDPE with MFI = 0.1 to 1.5 and D = 0.957-0.970,

Art Unit: 1772

-one or more PE's selected from linear low density polyethylene (LLDPE), linear medium density polyethylene (LMDPE) and mixtures of these, wherein the blend has MFI = 0.1=0.4 and D = 0.945-0.960 and stress crack resistance exceeding 24 hours.

Claim 23 covers articles comprising the blends of claim 1.

Claim 26 covers articles comprising the blends of claim 20.

Claim 41 covers a method of making a PE composition comprising the step of making the melt blend of claim 1.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Schellenberg et al (EP 0 707 040 A2).

Schellenberg teaches PE molding materials (title) having improves stress cracking resistance and good flow (page 1, first full paragraph) for use in making pipes or foils (page 1, last sentence).

As described in three indents on page 3, its molding material contains:

A) 40 to 90 wt% HDPE with MFI = 0.4 to 1.0 and D = 0.940-0.955,

B) 5 to 45 wt% bimodal HDPE with D = 0.940-0.960,

C) 2 to 40 wt% LDPE with MFI = 0.5 to 10 and D = 0.910 to 0.930.

Art Unit: 1772

The blends shown as Examples 3, 4, and 5 in Table 2 on page 9 have, respectively, densities of 0.949, 0.946 and 0.943, with MFI's of 0.25, 0.21 and 0.25 and MFR's (melt flow index ratios (see page 5, line 1) of 33.2, 31.0 and 28.0.

The blends of Table 2 are made by granulation at melt temperature of 232 °C, as shown in Example 1 (page 4, last complete sentence). Note that all of the examples use the blending process of Example 1.

The MFI of Schellenberg's Component B would inherently be within applicants' claimed range because the total blend's properties and the types and amounts of Components A and C are the same as applicants'.

Foils are deemed to be films or sheets, so that the articles recited in claims 24 and 27 are disclosed.

The publication's silence regarding the use of scrap or recycled resins is interpreted to mean that virgin resins are used.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1772

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claims 2, 22, 28, 42 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schellenberg.

Schellenberg is discussed above. It fails to teach the use of scrap or recycled resins in its materials.

It is deemed to be a matter of engineering choice to employ scrap or recycled resins in the materials of Schellenberg.

The motivation to employ scrap or recycled resins in the materials of Schellenberg is well known. Scrap and recycled resins are less expensive than virgin resin. Also, the recycling of resins is deemed to protect the environment.

It is deemed beneficial to save money during the production of pipes or other articles and/or to help protect the environment.

17. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saeda (Disclosure S54-100444 [1979]).

The following is based upon the translation of Saeda supplied with Paper No. 11.

Saeda teaches PE compositions having excellent stress cracking resistance exceeding 24 hours (Table 8 on page 12), with the blend having MFI= 0.05 - 2.0 and density = 0.930-0.960 (page 1, immediately after "Claims"). The compositions contain A) 10 to 65 wt% of a ethylene/alpha-olefin copolymers with D = 0.91-0.95, B) 35 to 90 wt% of an ethylene homo- or copolymer with D = 0.955. Component B) contains low



Art Unit: 1772

molecular weight polymers made during the production of the ethylene homo- or copolymer. The compositions can be made by two-step or bimodal polymerization (page 7, fourth full paragraph). The compositions are used to make pipes (page 2, second paragraph under "Detailed Description of the Invention").

Saeda uses virgin resins. He describes their polymerizations.

Saeda fails to teach the MFI and MFR ranges that applicants claim or the physical properties of the third component recited in applicants' claims.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ ethylene homo- or copolymers that yield suitable amounts of low molecular weight residues in the compositions of Saeda in order to achieve the stress crack resistance taught for Saeda's blends of A) and B).

The motivation to employ suitable types and amounts of the low molecular weight polymers as a third component is found in Saeda's claim, where it teaches that the low molecular weight species are to be left in Component B and that high stress crack resistance is obtained in articles made from the composition.

It is deemed desirable to make pipes and other articles having high stress crack resistance so that the pipes/articles will have longer useful lives.

### ***Response to Arguments***

18. Applicant's arguments with respect to claims 1-4, 6-15 and 20-46 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1772

**Conclusion**

Any inquiry concerning this communication should be directed to Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/872-9306. The receptionist answers 703/308-0661.



S. M. Nolan  
Patent Examiner  
Technology Center 1700

SMN/smn  
10022706(20031217)  
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